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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,637	09/28/2006	Minoru Miyatake	063121	3392

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EXAMINER
ARENDT, PAISLEY L

ART UNIT	PAPER NUMBER
2883	

NOTIFICATION DATE	DELIVERY MODE
08/03/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentmail@whda.com

Office Action Summary	Application No.	Applicant(s)	
	10/594,637	MIYATAKE ET AL.	
	Examiner	Art Unit	
	PAISLEY L. ARENDT	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 September 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/28/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 2004-095796, filed on March 29, 2004.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claim 21 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 21 is identical to claim 18, both depending upon claim 17.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk et al. (US 5825543) in view of Kuzuhara et al. (US 7199848 B2).

Regarding **claim 1**, Ouderkirk discloses an optical film, comprising:

a complex type scattering-dichroic absorbing polarizer (10, Figs. 1-2) including a monolayer film that has a structure having a minute domain (14, Figs. 1-2) dispersed in a matrix formed of an optically-transparent water-soluble resin (12, Figs. 1-2) including an iodine based light absorbing material (col. 1, lines 23-37; col. 4, lines 58-67; col. 14, lines 44-58; col. 18, lines 50-67; and col. 19, lines 44-54); and

a birefringent film including a transparent film formed of a solid polymer (col. 8, lines 51-67; col. 12, lines 50-64; col. 15, lines 44-55; col. 16, lines 18-25; and col. 19, line 44 – col. 20, line 4).

Ouderkirk does not explicitly disclose the solid polymer having the characteristic nx>ny>nz, where a direction in which a refractive index in a film plane gives maximum is defined as X-axis, a direction perpendicular to X-axis as Y-axis, a thickness direction of the film as Z-axis, and refractive indices in each axial direction are defined as nx_1, ny_1, nz_1, respectively.

However, Kuzuhara discloses an optical film comprising (col. 4, lines 48-56) a birefringent film including a transparent film formed of a solid polymer (col. 25, line 55 – col. 26, line 24) having the characteristic nx>ny>nz (col. 4, lines 48-56), where a direction in which a refractive index in a film plane gives maximum is defined as X-axis, a direction perpendicular to

X-axis as Y-axis, a thickness direction of the film as Z-axis, and refractive indices in each axial direction are defined as nx_1, ny_1, nz_1, respectively.

It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to incorporate the solid polymer having the characteristic nx>ny>nz, where a direction in which a refractive index in a film plane gives maximum is defined as X-axis, a direction perpendicular to X-axis as Y-axis, a thickness direction of the film as Z-axis, and refractive indices in each axial direction are defined as nx_1, ny_1, nz_1, respectively, as in Kuzuhara, into the optical film of Ouderkirk to improve transmittance and viewing angle.

Regarding **claims 2-4**, Ouderkirk discloses the minute domain of the complex type absorbing polarizer is formed of an oriented birefringent material, wherein the birefringent material shows liquid crystalline at least in orientation processing step (col. 13, lines 12-43), and the minute domain of the complex type absorbing polarizer has 0.02 or more of birefringence (claim 5).

Regarding **claim 5**, Ouderkirk discloses in a refractive index difference between the birefringent material forming the minute domain and the optically-transparent water-soluble resin of the complex type absorbing polarizer in each optical axis direction,

a refractive index difference (Δn^1) in direction of axis showing a maximum is 0.03 or more (col. 4, lines 30-67 and claim 58), and

a refractive index difference (Δn^2) between the Δn^1 direction and a direction of axes of two directions perpendicular to the Δn^1 direction is 50% or less of the Δn^1 (col. 4, lines 30-67 and claim 58).

Regarding **claim 6**, Ouderkirk discloses an absorption axis of the iodine based light absorbing material of the complex type absorbing polarizer is oriented in the Δn^1 direction (col. 4, lines 30-67 and claim 1).

Regarding **claim 7**, Ouderkirk discloses the film used as the complex type absorbing polarizer is manufactured by stretching (col. 8, lines 42-50).

Regarding **claim 8**, Ouderkirk discloses the minute domain of the complex type absorbing polarizer has a length of 0.05 to 500 μm in the Δn^2 direction (col. 9, lines 29-43).

Regarding **claim 9**, Ouderkirk discloses the birefringent film is a transparent film formed of solidifying a developed layer of a liquefied solid polymer (col. 8, lines 51-67; col. 12, lines 50-64; col. 15, lines 44-55; col. 16, lines 18-25; and col. 19, line 44 – col. 20, line 4).

Ouderkirk does not explicitly disclose the birefringent film is imparted the characteristic nx>ny>nz to have the transparent film, which is characterized in that nα is from 0.005 to 0.3, align a molecule in the plane of the transparent film, where (nx+ny)/2-nz=nα, a direction in which a refractive index in a film plane gives maximum is defined as X-axis, a direction

perpendicular to X-axis as Y-axis, a thickness direction of the film as Z-axis, and refractive indices in each axial direction are defined as nx_1, ny_1, nz_1, respectively.

However, Kuzuhara discloses the birefringent film is imparted the characteristic nx>ny>nz to have the transparent film (col. 4, lines 48-56), which is characterized in that nα is from 0.005 to 0.3, align a molecule in the plane of the transparent film, where (nx+ny)/2-nz=nα (col. 12, lines 10-15), a direction in which a refractive index in a film plane gives maximum is defined as X-axis, a direction perpendicular to X-axis as Y-axis, a thickness direction of the film as Z-axis, and refractive indices in each axial direction are defined as nx_1, ny_1, nz_1, respectively.

It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to incorporate the birefringent film imparted the characteristic nx>ny>nz to have the transparent film, which is characterized in that nα is from 0.005 to 0.3, align a molecule in the plane of the transparent film, where (nx+ny)/2-nz=nα, a direction in which a refractive index in a film plane gives maximum is defined as X-axis, a direction perpendicular to X-axis as Y-axis, a thickness direction of the film as Z-axis, and refractive indices in each axial direction are defined as nx_1, ny_1, nz_1, respectively, as in Kuzuhara, into the birefringent film of Ouderkirk to improve transmittance and viewing angle.

Regarding **claim 10**, Ouderkirk discloses the solid polymer that forms the birefringent film is at least one selected from polyamide, polyimide, polyester, polyetherketone, polyamide-imide, and polyesterimide (col. 8, lines 51-67; col. 12, lines 50-64; col. 15, lines 44-55; col. 16, lines 18-25; and col. 19, line 44 – col. 20, line 4).

Regarding **claim 11**, Ouderkirk does not explicitly disclose the birefringent film satisfies the relationship Re≥10 nm, where Re=(nx-ny)d, and d is thickness.

However, Kuzuhara discloses the birefringent film satisfies the relationship Re≥10 nm, where Re=(nx-ny)d, and d is thickness (col. 4, lines 19-30 and lines 48-56 and col. 12, lines 34-46).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the birefringent film satisfying the relationship Re≥10 nm, where Re=(nx-ny)d, and d is thickness, as in Kuzuhara, into the birefringent film of Ouderkirk to improve the transmittance and viewing angle.

Regarding **claim 12**, Ouderkirk discloses the birefringent film is produced by a process comprising the steps of dissolving the solid polymer in a solvent to liquefy it, developing the liquefied polymer on a supporting substrate, drying it to form a transparent film comprising the solidified product and having the characteristic nx≈ny, and subjecting the transparent film to one or both of an extending process and a shrinking process to align a molecule in the plane of the transparent film (col. 8, lines 51-67; col. 12, lines 50-64; col. 15, lines 44-55; col. 16, lines 18-25; and col. 19, line 44 – col. 20, line 4).

Regarding **claim 13**, Ouderkirk discloses the complex type absorbing polarizer and the birefringent film are laminated and fixed (col. 16, lines 9-17).

Ouderkirk does not explicitly disclose the polarizer and birefringent film are fixed through an acrylic transparent pressure-sensitive adhesive.

However, Kuzuhara discloses a polarizer and the birefringent film are fixed through an acrylic transparent pressure-sensitive adhesive (col. 90, lines 53-67).

It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to incorporate the polarizer and birefringent film fixed through an acrylic transparent pressure-sensitive adhesive, as in Kuzuhara, into the optical film of Ouderkirk to effectively fix the two materials together by an adhesive commonly used in the art.

Regarding **claim 14**, Ouderkirk discloses a transmittance to a linearly polarized light in a transmission direction is 80% or more (claims 13, 15, 17 and 20).

Ouderkirk fails to explicitly disclose a haze value is 5% or less, and a haze value to a linearly polarized light in an absorption direction is 30% or more, with regard to the complex type absorbing polarizer.

However, Kuzuhara discloses a haze value is 5% or less, and a haze value to a linearly polarized light in an absorption direction is 30% or more, with regard to the complex type absorbing polarizer (col. 15, lines 57-59 and col. 45, lines 14-21).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate a haze value of 5% or less, and a haze value to a linearly polarized light in an absorption direction of 30% or more, with regard to the complex type absorbing polarizer, as in Kuzuhara, into the optical film of Ouderkirk to decrease the haze value, hence improving transmittance.

Regarding **claim 15**, Ouderkirk discloses at least one of another optical film (col. 15, line 44 – col. 16, line 50 and col. 20, lines 40-46).

Regarding **claim 16**, Ouderkirk discloses an image display comprising the optical film (col. 20, lines 40-46).

Regarding **claims 17 and 20**, Ouderkirk discloses a transmissive liquid crystal display (col. 20, lines 40-46), comprising:

a liquid crystal cell (col. 20, lines 40-46) comprising a pair of substrates and a liquid crystal layer sandwiched between the substrates; and

a pair of polarizing plates placed on both sides of the liquid crystal cell, wherein

at least one of the polarizing plates is the optical film according to claim 1, and the optical film is placed such that the birefringent film side of the optical film faces the liquid crystal cell (col. 15, line 44 – col. 16, line 17).

Regarding **claims 18 and 21**, Ouderkirk fails to explicitly disclose the liquid crystal cell is in a VA mode.

However, Kuzuhara discloses the liquid crystal cell is in a VA mode (col. 40, lines 39-52).

It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to incorporate the liquid crystal cell in a VA mode, as in Kuzuhara, into the liquid crystal cell of Ouderkirk to improve viewing angle.

Regarding **claim 19**, Ouderkirk discloses an image display comprising the optical film (col. 20, lines 40-46).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAISLEY L. ARENDT whose telephone number is 571-270-5023. The examiner can normally be reached on MON - FRI, 9:00 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Robinson can be reached on 571-272-2319. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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